

PathMINDER

Digitally Controlled
Coax Switch

ALPHA DELTA COMMUNICATIONS, INC.



The Future of
Coax Switches
is here!



Specifications

- Coax positions - Six
- Microprocessor Controlled - Software Upgradeable
- Position indication - One LED for every switch position
- Alarm indication - Yellow LED
- RF power handling capability - 1.5 KW
- Frequency range - 1.8 to 54 MHz
- Isolation - >50 db
- Grounding modes - Ground all and ground all except position six
- Radio sensing modes - Ground all, ground all except position six, off.
- Radio Sensor interface - 1.0 to 20 volts DC, <1 mA
- Power Requirements - 11 to 15 volts, 250 mA
- Size: 7.5" W x 5"D x 2.5" H
- Weight: 2 lbs

Specifications subject to change without notice

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Digital Coax Switch

The PathMINDER is a six position, digitally controlled, coax switch. It provides features never before found in an RF coax switch. As a normal switch, it can switch up to 6 coax outputs with the press of a soft-touch front panel button. Internal relays handle up to 1500 watts on HF with very little insertion loss.

The internal microprocessor monitors the system to ensure maximum protection for the user. It is nearly impossible to “hot switch” the unit. That prevents burn out of contacts or load changes while transmitting (a serious problem with all mechanical switches). An alarm LED flashes to alert the operator that they tried to “hot switch” but the PathMINDER protected them.

The microprocessor also monitors a radio sensing input and will automatically ground inputs when the radio is turned off. A simple wire interface to any radio output that provides a DC voltage when on is all that is required. This provides an unparalleled level of lightning protection when used in combination with a radio’s “auto-off” timer. No more forgetting to ground the antennas when not operating. To provide maximum protection, the user should connect a good earth ground to the PathMINDER’s ground connection on the back panel.

The PathMINDER is supplied with two cables that can be used for power and/or radio sense control. On both cables, the red is positive and the black is negative. Each input is protected against reverse power. The power and control jack is a standard 5.5 x 2.5 mm coaxial jack with the center conductor positive.

The power input can be any DC voltage between 11 and 15 volts. The maximum current draw is 250 mA.

The radio sense control is intended to be connected to a voltage source on the users radio. Most radios have a +5 or +12 source provided in an accessory jack on the back. This source can be connected to the radio sense control to ground all coax input when the radio is powered off. It is not necessary to use the radio sense feature of the PathMINDER.

There are three modes associated with the radio sense control. To select the radio sensor mode, the user will press switch one and two at the same time. This will cycle through the three radio sensor modes, and then repeat. When the radio sensor mode changes to off, the alarm LED will light steady on for two seconds. When the radio sensor mode changes to ground all except position six, the alarm LED will flash slowly for two seconds. The selection LED for position six will be lit. When the radio sensor mode changes to ground all, the alarm LED will flash fast for two seconds.

The first mode (Mode 1) is Radio Sense off. In this mode, the radio sensing control port is ignored. The user can press any of the six front panel buttons to make an antenna selection. The corresponding position LED will light and stay lit to show the current position selected. All un-selected antenna inputs are grounded. If the user attempts to change the antenna position while RF is being transmitted through the PathMINDER, the command will be disregarded and the Yellow Alarm LED will flash for 2 seconds. Once RF is removed, the user can then make an antenna position selection.

This mode is usually selected when the user does not have the radio sense control port connected to the PathMINDER.

Mode 2 is Ground all except position six. In this mode, the radio sense control port is monitored during operation. If there is a voltage present on the radio sense control port, operation proceeds normally. The user can press any of the six front panel buttons to make an antenna selection. Once the voltage on the radio sense control port is removed, the PathMINDER will ground all inputs and connect the TX input to output position six. The unit will also turn on the Alarm LED to indicate that the radio is not connected to an antenna. The user will not be allowed to select an antenna position until the radio sense control voltage is returned.

This mode is usually selected when the user has an appropriate dummy load connected to position six and the radio sense control is used.

Mode 3 is Ground all. It is similar to mode 2 except that all antenna positions will be grounded when there is no voltage on the radio sense control port.

This mode is usually selected when the user does not have a dummy load connected to the PathMINDER and the radio sense control is used.

<i>Mode</i>	<i>Mode Description</i>	<i>Alarm Indicator</i>	<i>Mode Reminder</i>
1	Sense Off	Solid	Off
2	Ground all except 6	Slow Flash	On
3	Ground all	Fast Flash	On

When DC power is removed from the PathMINDER, position six will be connected to the transmitter. If the user has a dummy load, it should be connected to position six. This will provide the ultimate in radio protection, even if AC power fails (sometimes associated in times of lightning storms), all positions will be grounded and the radio will be connected to the dummy load.

Be sure to remember that if DC power is removed from the PathMINDER (by the user or power failure) that the unit will immediately change to position six. There will be no LED indicators when the DC power is removed.



The user can also ground all antennas by pressing switch five and six at the same time. All position LEDs will go out and the Yellow Alarm LED will turn on and stay lit. The Alarm LED will act as a reminder to the user to not transmit into the switch with all antenna positions grounded.

If the radio sense control voltage is removed and the unit is in mode 2 or 3, the user will not be allowed to select the ground all function.

The PathMINDER also feature a non-volatile memory that stores the current mode and position selection in case of power failure. This is useful where the PathMINDER is powered by the station power supply. When power is removed, the switch will change to position six. When power is restored, the previous position will be selected.

Warranty: The seller warrants that each unit sold is manufactured in accordance with seller's specifications, drawings, samples or data in effect on the date of receipt of the order, as they apply to those parts called for on the order, and that each unit is free from defects and workmanship.

The sellers liability under this warranty is limited to the repair or replacement of any unit which proves to be defective in material or workmanship under normal use and service provided the unit is returned to the Alpha Delta shipping point (or designated service center) within one year from the date of purchase and will in no case be responsible for the special or consequential damages. This warranty is in lieu of all other warranties expressed or implied.

Service: If a problem occurs with your PathMINDER and service is needed, contact LDG Electronics by phone at 410-586-2177 or by e-mail at alphadelta@ldgelectronics.com. If a return is necessary, be sure to package your unit to protect from damage. Include a note with your name, address, phone number, e-mail, and a brief description of the problem. Ship the unit to LDG Electronics, 1445 Parran Road, St. Leonard MD, 20685 prepaid and insured for the retail value. (LDG Electronics Inc. is not responsible for units lost or damaged in shipping).

For non-warranty repairs, the average repair cost is \$50.00. This covers most small parts. We will contact you with the cost for repairing your return. The customer is responsible for paying return shipping on non-warranty repairs. We will turn the unit around as quickly as we can. Repairs can take up to 6 weeks.

PathMINDER Block Diagram

